

THE PSYCHOLOGICAL REVIEW

CONTRIBUTIONS TO ROLE-TAKING THEORY: I. HYPNOTIC BEHAVIOR ¹

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This paper attempts to construct from a social psychological standpoint a workable theory of hypnosis. Briefly stated, it essays to demonstrate that hypnosis is one form of a more general kind of social psychological behavior, namely, role-taking.

That a theory based on social psychological considerations is necessary arises from the obvious social psychological nature of the hypnotic situation. The patent dependency of hypnosis on interpersonal relations calls for a theory which is more continuous with social psychological formulations than with outworn physiological speculations (25) or revived mentalistic entities (46). Moreover, the search for shorter and more efficient psychotherapeutic measures (together with the former widespread use of hypnosis in the treatment of the hysterics) suggests a reconsideration of hypnosis in the treatment of certain behavior disorders. Such treat-

ment will be less abused if it rests on a more substantial theoretical framework than formerly. In addition, the potential value of hypnosis as a tool for social science and medical research demands a careful evaluation of the nature of hypnosis. Thus appropriate allowances will be made for the perturbations in the experimental field introduced by the use of hypnosis as a research instrument.

OBSERVATIONS WHICH MUST BE ACCOUNTED FOR

A theory of hypnosis must account for many phenomena subsumed under a single label. These phenomena and the conditions which elicit them may be grouped for our purposes into these four classes: (1) the apparent discontinuity or dissociation of behavior; (2) the apparent automaticity of response; (3) the disjunction between the magnitude of the response and the procedure which instigates the response; and (4) individual differences in responsiveness to hypnotic induction procedures. These four types of observations are briefly elaborated below.

Apparent discontinuity. In hypnosis the subject appears to be in a state which is discontinuous from events prior to the initiation of the hypnotic induc-

¹ A preliminary form of this paper was read at the 1946 meetings of the Western Psychological Association. Most of the experimental and clinical work reported in this paper was begun during the author's tenure as a post-doctoral fellow of the Social Science Research Council, 1941-43. The author expresses his gratitude to his colleague, Dr. Harrison G. Gough, and to Dr. R. W. White of Harvard University for critically reading the manuscript.

tion procedure. From introspective accounts and from observers' protocols it seems that stimuli are perceived by a markedly altered organism and that the responses are quantitatively and qualitatively different from those in the pre- and post-hypnotic periods. Some of the more dramatic items of conduct which lead to the acceptance of the inference that the subject's behavior is discontinuous (dissociated) are: anesthesia, amnesia, post-hypnotic compulsive behavior, hypermnesia and various somatic effects such as the inhibition of gastric contractions. To those who are content only with a superficial examination of hypnotic phenomena it appears that hypnotic subjects can perform acts which violate the limits of everyday behavior. When the data are inspected more closely, however, we find that the changes in behavior which do occur involve chiefly the skeletal musculature—*i.e.*, voluntary responses. Responses which are involuntary, such as PGR, blood pressure shifts, and pupillary reflexes are less amenable to verbal instructions, and the limits are extended not too far from the limits of waking behavior (43). Later we shall show that those responses involving the skeletal musculature require no further explanation than that the subject is taking the role of the hypnotic subject as understood by him as a result of his previous interactions with similar social psychological situations. The extension of the limits of behavior involving the autonomic functions is understood in terms of the conception of the organism as-a-whole—a conception which is now generally accepted in sophisticated psychological theory.

Apparent automaticity. Most of the early theorists were thrown off the trail of a really workable theory of hypnosis by the manner in which acts are carried out under hypnotic stimulation. The word "trance" has been used to express

this meaning. In most instances the subject appears to act like an automaton. There is an apparent absence of volitional activity. The experimenter throws out commands which seem to be accepted by the subject without critical consideration. He is often slow, stuporous, and seems to be exerting a great deal of effort to perform simple acts. Retrospective accounts reveal a distinction between obedience as found in everyday behavior and the automatic acceptance of commands without the subjective experience of intent. In addition to accounting for this apparent automaticity, a workable hypnotic theory must account for many acts which are added spontaneously by the subject without the benefit of instruction from the experimenter. Unlike physiologically-oriented theories, the role-taking theory considers these observations under the concepts of role-enactment and role perception.

The disjunction between the magnitude of the response and the procedure which instigates the response. This aspect of hypnosis is probably responsible for the popular association of hypnosis with magic. The experimenter (or therapist) merely talks to the subject. How, then, can such marked changes in behavior occur merely as a result of verbal instructions? The need for explaining this observation would be less urgent if the stimuli were of the same order of magnitude as are found in extreme stress, fatigue, toxicosis, narcosis, or febrile conditions. In a later section we shall point out how verbal instructions may help the subject focus on and enact a role which may have markedly altered somatic components.

Individual differences in response to hypnotic induction procedures. The observation which has received the least attention from the theorists and experimenters is (at least to this writer) the most obvious one, *viz.*, individual sub-

jects respond differently to the same hypnotic procedures. As is well known, many subjects cannot be hypnotized at all, some will exhibit mild cataleptic reactions, and still others will exhibit all the classical responses of hypnosis. Furthermore there is a great deal of variation in the manner in which directions are accepted (or rejected) by subjects who are apparently hypnotized to the same degree. As anyone who has taken the role of a hypnotist knows, and as Brenman (7) has concluded from her analysis of various induction procedures, little or no relationship exists between the subject's performance and the specific innovations which are introduced into the hypnotic instructions. Since the induction procedure *per se* cannot account for the differential responsiveness of subjects, this leaves the subject *as a person* as the more fruitful focus of study.

These four types of observations may be combined into a question, the answer to which will provide us with a more definitive theory of hypnosis: What are the characteristics of those individuals who, in response to hypnotic induction procedures, exhibit conduct which is apparently discontinuous and apparently automatic?

SOME CONCURRENT THEORIES

It is unnecessary to take time out to flog the dead horse of dissociation theory. Numerous experiments and sophisticated observations have led to the unmistakable conclusion that the hypnotized subject is not composed of various psychophysiological systems that can be dissociated one from the other. White and Shevach (45) have written a thoroughgoing analysis of the concept of dissociation and have concluded that the natural cleavages in the nervous system postulated by Janet are nonexistent.

A number of writers cling to the con-

ditioned response theory to explain hypnosis. Historically the conditioned response theory stems from this simple explanation: The word is the conditioned stimulus and acts as an efficient stimulus. This is no more than a streamlining of the old ideomotor hypothesis. In 1933 Hull stated it this way: ". . . the withdrawal of the subject's symbolic activities would naturally leave his muscles relatively susceptible to the symbolic stimulation emanating continuously from the experimenter . . ." (21, p. 397). From such a conclusion (which seems naïvely to regard the subject as a spinal animal) Welch has recently presented an hypothesis and an experiment which purport to give credence to the conditioning theory (9, 42). Taking as his point of departure the most commonly used induction procedure, Welch says:

"If the subject analyzed himself in some naïve fashion, he might say, 'When the hypnotist said I felt A, I felt A; when he said I felt B, I felt B; and now he says I feel X, I feel X.' At this point the generalization has extended to the point that whatever the hypnotist says the subject feels, he, within limits, actually feels" (42, p. 361).

On the basis of his hypothesis that hypnosis is a kind of generalized conditioning, Welch and his co-workers performed a learning experiment (in which, incidentally, none of the subjects was hypnotized) based on this experimental analogue. ". . . a word flashed on a screen was used as analogous to the spoken word of the hypnotist, and followed by the phenomenon for which the word was a symbol. Thus the word 'music' was followed by the playing of music. After a certain number of trials the word 'electric shock' was flashed on the screen and was not re-inforced." His findings were summarized thus: ". . . in a group of 15 subjects, 11, or

73 per cent gave a (PGR) response greater than to any other stimuli."

That Welch has demonstrated a type of abstract conditioning is not to be denied. But he has not shown that this type of conditioning is the important feature of hypnosis. In the first place, many subjects can be hypnotized without using the analogous procedure. If a subject comes into a hypnotic experiment with certain self-perceptions and role-taking skills, it is possible for him to become hypnotized without the usual monotonous delivery and so-called reinforcement. In an unpublished study (36) the present author has shown that some subjects can be hypnotized with these instructions: "Make yourself comfortable in this easy chair. I'll step out of the room for a few minutes so you can relax. When I come back I will count to ten, you will close your eyes and go into a hypnotic sleep." Even if we could accept the analogy between the Welch experiment and hypnosis, there is no answer to the question: Why did the other 27 per cent not condition? If Welch could show that a correlation existed between "abstract conditionability" and hypnotizability, we should still have to fit this correlation into a more comprehensive framework based on an understanding of the antecedents of these individual differences.

Eysenck and Furneaux (12, 13, 17) have also reported some studies which are related to the ideomotor principle. Using a factorial approach, they isolated three factors from a series of psychomotor and other tests. The first, primary suggestibility, is highly correlated with hypnotizability and is best measured by the postural sway test. The second factor, secondary suggestibility, is unrelated to hypnotizability. The third factor, unrelated to the previous two, also predicts susceptibility to hypnosis, and is measured by a test of heat illusion. They conclude that sus-

ceptibility to hypnosis is an innate characteristic (presumably on the grounds that psychomotor traits are inborn). This writer would declare this conclusion a *non sequitur*. That hypnotizability and certain traits are shown to be related is an acceptable conclusion, but to posit that this relationship is based on inherited factors is not continuous with the data. Below we try to fit these data into our conceptual framework.

Perhaps the most widely accepted hypothesis at the present time is a conative one which places the phenomena of hypnosis at a high integrative level. A number of writers have contributed evidence to support such a theory, notably Dorcus (10), Lundholm (28), Rosenow (32), Pattie (31), White (43), and Sarbin (37). The most systematic presentation of this hypothesis has been offered by White. He defines hypnosis as "meaningful, goal-directed striving, its most general goal being to behave like a hypnotized person as this is continuously defined by the operator and understood by the subject." This approach purports to look upon the hypnotic subject as a functionally intact human organism who is very much in contact with stimulus objects and events, trying to conduct himself in certain meaningful ways rather than in the manner of a spinal animal.

White's theory deals with three of the previously identified four sets of observations. It looks first upon the apparent automaticity as a form of striving: the subject tries to behave in an organized manner, following instructions as he understands them. The apparent discontinuity is treated in terms of measurable extensions of the boundaries of volitional control. How the goal-directed striving makes possible this extension of the limits is subject to speculation in terms of "disinhibition of the

higher centers." The importance of the procedure for inducing hypnosis is analyzed in terms of relaxation, reduction of sensory input, drowsiness, and a contracted frame of reference. This procedure produces an altered state of the organism which makes possible the success achieved by the striving. The theory fails to provide an explanation for differential susceptibility beyond that due to motivational factors, such as need for submissiveness and deference.

This analysis places the striving in a context beginning with the experiment itself. It fails to recognize explicitly that the subject comes into the hypnotic situation with certain pre-conceptions about the experiment, the experimenter, and even about such items as the place in which the experiment is being conducted. It does not make clear that the subject also comes into the hypnotic setting with certain self-perceptions, and that these self-perceptions will operate toward the subject's being successful or not in his striving to behave "in ways defined by the operator." White's analysis would be more tenable if there were no individual differences in responding to the operator's instructions. Relaxation, drowsiness, and reduction of sensory input—time-consuming processes—obviously would not be involved with those subjects who responded immediately to the command: "Go into a hypnotic sleep."² The observable dif-

ferences in individuals, not only in the depth of hypnosis, but also in the kind and quality of spontaneous additions to the operator's directions, suggest that we look into the reactional biography of the subject and into the evolution of the stimulus setting for clues as to the nature of hypnosis.

THE ROLE-TAKING HYPOTHESIS

To fill the gap in White's goal-striving theory, another hypothesis is herewith introduced. Hypnosis is a form of a more general kind of social psychological behavior known as role-taking. In the hypnotic experiment the subject strives to take the role of the hypnotized person; the success of his striving is a function of favorable motivation, role-perception, and role-taking aptitude. This orientation breaks completely with the tradition of looking on hypnosis as some strange phenomenon for which it is necessary to invent psychophysiological constructions. Rather it is placed in continuity with other social psychological conceptions.³

deep vertical activation, reaching to the affective and autonomic levels, of those processes which are suggested. In contrast to this would be the relatively horizontal activation of everyday life where different processes tend to act together or check each other.

"This (monoidism) appears to me to be the pre-dynamic form of what now looks like the best hypothesis for the nature of the hypnotic state. For present purposes some such term as monomotivation would be more suitable. This view of the matter makes possible a fruitful comparison between hypnosis and other states, such as great fear or excitement, in which volition is transcended. All such states are monomotivational but in the sense that one extremely powerful motive or one strong preoccupation momentarily towers over all other processes. Hypnosis achieves the same relative effect at low dynamic intensities, quieting the competitors rather than heightening the chief process."

³ The concept of role-taking has been described in a previous paper (34). In brief, role-taking may be summarized as follows: (1) Role-enactment depends upon prior ex-

² In a personal communication, R. W. White has extended his theory as follows: "It would have been better, I think, to develop at more length the idea of a contracted frame of reference, or, as I would now prefer to put it, a contracted frame of activation. What has to be explained is how the hypnotic suggestions achieve their peculiar success, and I think the explanation should include two things: first, the presence of a single ruling motivation, and second, the exclusion (by quieting) of all promptings and even of the sensory avenues to such promptings that might set up competing processes. In this contracted field of activation there may be conceived to take place a

To adopt a frame of reference that departs from dependence on traditional formulations, and to provide a logical link between the observations and theory, we point to another area of conduct which is apparently automatic, apparently discontinuous, elicited by relatively simple verbal instructions, and characterized by individual differences in performance: to wit, the drama. Introspective accounts and observers' reports of stage actors taking roles reveal a kind of behavior which may be characterized in much the same way as hypnosis. The apparent discontinuity, for example, has been established as an important factor in dramatic role-taking. The actor's stage behavior appears to be dissociated or discontinuous from his "normal personality." In Archer's classical study of acting (2) some actors report losing themselves completely in certain roles so that they are relatively unaware of the audience or of other physical or social objects. The role may even carry over to off-

perience, either symbolic or overt, in order to build up a perception of a given role. (2) Role-taking is organismic, that is to say, it embraces the entire organism, not merely the voluntary reaction-systems. (3) Role-taking occurs with various degrees of participation of the self in the role (this may also be described as levels of consciousness). (4) The perception and enactment of roles is variable inter-individually, intra-individually, and culturally—both qualitatively in terms of the role-behaviors that go to make up any given role, and quantitatively in terms of the number of roles available to an individual or group. (5) Role-taking is a complex form of conduct and can be condensed into significant symbols. (6) Role-taking can be understood as coordinate with the self; a self-concept, phenomenal self, self-dynamism, or ego must be postulated in order to understand role-behavior, in fact, any social psychological behavior. To these may be added another item, (7) statuses or positions, which are established in various ways and which define what roles are appropriate and expected. (See also Cameron [8], especially Chapter IV, and a forthcoming book by the writer, *The Psychology of Role-Taking*.)

stage statuses. The introspective accounts of actors taking roles are often undifferentiated from the accounts of hypnotic subjects (36).

Allen cites Oesterreich who collected a number of observations on this point. One such observation is reproduced here: "Martersteig compares the personality of the theatrical character to a self suggested to the actor by hypnosis, and states that the waking remainder of the actor's consciousness (*Bewusstseinsrest*) can observe the actions of the hypnotic self, as though it were another person, at one time feeling anxiety with regard to them, at another time allowing them to have full play" (1, p. 123).

It appears that the stage director stands in the same relationship to the actor as the hypnotist does to the subject. The statuses or positions are defined beforehand, the specific role-behaviors are dictated by the attempts of each participant to validate his status (27). In short, the participants inter-behave with each other in ways that are appropriate to each position—provided, of course, that such interbehavior can be incorporated by each participant in his self-concept. Because acting has not been burdened with the incubus of dissociation or ideomotor theory, we are not amazed at the frequent marked changes in skeletal and visceral behavior which occur merely because the director tells the actor what to do. The analyst of dramatic acting does not seem to be concerned with such pseudo-problems as the search for a one-to-one constancy relationship between the magnitude of the stimulus (the director's verbal instructions) and the magnitude of the response (the complicated verbal, motor, and visceral reactions of the actor).

From this preliminary description we submit that the role-taking of the stage actor and the role-taking of the hyp-

notic subject embody the same characteristics: (a) Favorable motivation—the actor's self-concept and his perception of the part to which he is assigned must be congruent; if it is not, then his performance is unconvincing or he pays a terrific psychological price. (b) Role-perception—the actor must first perceive the role he is to play—this is achieved partly by the actor's own experiences with similar stage or real-life roles, partly by the director's definition of the role. (c) Role-taking aptitude—needless to say, some actors can take a role more completely than others. Compare, for example, the performance of Barrymore as Hamlet with the efforts of a high school senior.

notic subjects become so involved in the role that perception becomes over-focalized and many self-other observations are by-passed. From those studies of acting which have come to this writer's attention, it would seem that there is a great deal of overlap with hypnotic role-taking in this dimension, but there would be, on the average, less participation of the self in the role of actors as compared with hypnotic subjects. Below is a schematization of this dimension of role-taking, in which acting is placed at a relatively high level of differentiation of self from role. The overlapping in the drawing is intentional. Not only is the relationship of acting to hypnosis shown but these forms of

states of ecstasy; mystical experiences;
role and self undifferentiated

hysterias

hypnosis

"heated" acting

technical acting;
role and self are differentiated

Young (46) has criticized such conceptions of hypnosis by saying that the subject is playing a game with himself and with the experimenter. This criticism is invalid because it does not consider an important dimension. In the two types of role-playing there is a quantitative difference along a continuum which we may characterize as the "conscious-unconscious" dimension. We may ask, how conscious is the actor of his surroundings, of stimulus-objects, and of himself as compared with the hypnotized subject? Or, to put it in terms more continuous with the present study, what is the relative degree of participation of the self in the role (or in Mead's terms, of the "I" in the "me")? Some actors and some hyp-

role-taking are placed in a larger setting the better to illustrate what is meant by this dimension.^{3a}

In the last few paragraphs we have tried to orient the reader away from the necessity of physiologizing about hypnosis by showing the similarity of hypnosis and acting. Thus we can conceive of hypnosis as being continuous with other social psychological events. At this time we submit certain observations to lend support to the central hypothesis, *viz.*, hypnotic role-taking is dependent on at least three factors—

^{3a} This discussion of the role-taking process is given more detailed treatment in a forthcoming article: Sarbin, Theodore R. and Farberow, Norman L. "Contributions to Role-Taking Theory: II. A Clinical Study of Self and Role."

favorable motivation, role-perception, and role-taking aptitude.

Favorable motivation. The most complete paper on this topic has been contributed by White (44). He reviews the studies which have attempted to demonstrate the relationship between hypnotizability and motivational variables. The obtained correlations have for the most part not been significantly different from zero. In his own study White finds a small but positive correlation between hypnotizability and the need for deference (.42), and also a small but negative correlation with the need for autonomy (-.42). ". . . there is a great deal of individual variation in the tendencies which are awakened, so that manifest needs like *passivity, exhibitionism, sex, or aggression* may sometimes occupy the foreground. . . . There is [also] reason to believe that three latent infantile needs sometimes function as motivating forces favorable to hypnosis: the need for *love, . . . the tendency for passive compliance, . . . and the wish to participate in omnipotence. . . .*" He concludes with this significant statement. "It is doubtful whether the analysis of motivational factors can be pushed further except by the intensive study of the subjects as individuals"⁴ (44, p. 161).

In terms which are more continuous with those of contemporary social psychology, White's conclusion may be restated as follows: If the subject's perception of the self (self-concept) and his perception of the role (here, the role of the hypnotized subject) are not disjunctive or incongruent, then he may be said to be favorably motivated.

One example is herewith presented to

⁴The psychoanalytic theories of hypnosis have contributed little to a systematic understanding of hypnosis *except* in the area of motivation. The transference phenomena (14, 38) can be readily translated into the language of social psychology.

facilitate understanding of this formulation. The author gave a lecture and demonstration of hypnosis to a group of undergraduates. The class instructor had previously pointed out (to the author) several students whom he thought would make good subjects. One of these was a young woman of 21 whom he characterized as being dominated by the need for exhibitionism. She had volunteered, along with several others, to be a subject. She responded to the usual induction procedures and served as the main subject to demonstrate the usual signs of hypnosis, catalepsy, rigidity, hallucinations, post-hypnotic compulsive behavior, amnesia, age-regression (to a period when she could only understand and speak another language), etc. At the end of the meeting those subjects who had passed the usual hypnotic tests were asked if they would participate in an experiment in the author's laboratory. She volunteered along with the others. An appointment was made for a week later. She came with some friends at the appointed hour. But instead of being the easily-hypnotized subject of the week before, she was extremely resistant and showed external signs of anxiety and conflict. After about 30 minutes the experiment was terminated. In an interview which followed, the subject said, "I could not understand why, but every time you said my eyes were getting heavier, I would try harder to keep them open. When you said I would cooperate, I seemed to say to myself, 'I mustn't do this.'" Further questioning revealed that when she had discussed the demonstration with her parents, her father had expressed vehement disapproval of her submitting herself to such indignities, and had instructed her not to participate again. At the time, she thought she gave his instructions little attention, but as the time drew near for keeping the appointment, she became

more and more anxious. "You know, I always try to please my father."

In this instance we can say that for the first experiment the subject was favorably motivated. Her self-concept (dominated by the need for exhibitionism, if the instructor's appraisal was correct) and the perception of the role of the hypnotized subject were not disjunctive. In the second experiment the self-concept carried another characteristic—of greater valence than the need for exhibition—the maintenance of her father's approval. The role of the hypnotized subject was incongruent with her self-perception, which perception had been modified by interaction with her father. Although she had demonstrated before that she could perceive the role of the hypnotic subject, and could enact it with great fidelity, she could not focus on the role because of her changed self-perception.

In clinical experience this writer has found that as a patient achieves a set of self-perceptions which makes dependency ego-alien, resistance to hypnosis as a therapeutic aid increases. One patient, near the termination of therapy, was faced with blocking involving her school work. This same symptom had cleared up earlier after a few hypnotic sessions. When it was suggested that hypnosis be used as an auxiliary therapeutic technique, she was resistant to the idea. She said: "I know it worked before, but I would rather work this through on a more mature basis." Janet (24) long ago made the same observation, but related it to different concepts.

Role-perception. This concept was first introduced by G. H. Mead (29) and later by Moreno (30) in his studies of the psychodrama. In order to enact a dramatic or psychodramatic role, it is necessary for the subject to have a perception of the role. (The words "image" and "preconception" are used by other writers to express the same

idea [22].) Through various media of communication, such as parental instruction, motion pictures, novels, comic strips, radio stories, rumors and folktales, role perceptions are built up.⁵ The role of the father, the role of the teacher, the role of the policeman, etc., are built up from interaction with others in the social environment. When the subject enters the hypnotic situation, then, he comes not only with various self-perceptions, but also with various role-perceptions, among them the role of the hypnotic subject. The announcement of the experiment and the directions of the operator serve as stimuli which elicit the perception of the role. The validity of this conception is suggested by at least three kinds of observations: (1) trance states of certain primitive and religious groups, (2) the role-playing of young children, and (3) clinical and experimental studies.

Trance states. In many cultures trance states mark a *rite de passage*. As an illustration we cite one of Benedict's studies. She has described how, among the Plains Indians, an individual will experience many of the phenomena, including hallucinations, which are usually subsumed under the term hypnosis. The content of the hallucinations is relatively constant within groups but highly variable between groups. The role of the tranced subject is perceived from interaction with his own group. "The tranced individual may come back with communications from the dead describing the minutiae of life in the hereafter, or he may visit the world of the unborn, . . . or get information about coming events. Even in trance the individual holds strictly to the rules and expectations of his culture, and his experience is as locally patterned as a

⁵ In a paper now in preparation the author analyzes in greater detail how the established principles of perception may be applied to role-perception.

marriage rite or an economic exchange" (6, p. 77). In brief, the perception of the trance role is built up in social interaction.

Role-playing of young children. Space prevents the identification of the numerous studies which have been reported dealing with the fantasy-roles observed in young children. One can condense the findings for the purposes of this paper into this general statement: The roles which emerge in the fantasy and play activities of young children are dependent upon their being able to perceive other-roles (4, 5, 8, 15). Some of the studies of imaginary companions are especially illuminating (18).

Hartley *et al.* have recently reported a pioneering study in an attempt to understand how children perceive ethnic group roles and parental roles. As might be expected, children begin to have role-perceptions at an early age and there are levels of complexity in their formulations of role-perception (20).

Clinical and experimental studies. Dorcus *et al.* (10) have reported a study which shows clearly that college students—who make up most of the experimental population—are not naïve subjects as far as hypnosis is concerned. For example, of 669 students questioned, 79 per cent answered yes to the question: Is hypnosis possible? To the question, Could you be hypnotized?, 36 per cent said yes, and 15 per cent answered in the affirmative in regard to the possibility of hypnotic amnesia. These data may be interpreted to signify that most college students (the usual experimental population) have a perception of the role of the hypnotic subject. Not all who have such a role-perception, however, can enact the role. The proportion of college students who are successfully hypnotized is much less

than would be expected from the Dorcus *et al.* data.

In an unpublished study (36) the author asked a sophomore class to write descriptions of what takes place in hypnosis. This assignment was made a week before the lecture and demonstration of hypnosis. Volunteers from this class were subject to the induction procedure described by Friedlander and Sarbin (16). The spontaneous acts, introduced by the subjects without instructions from the experimenter, were noted. Of the 12 subjects who volunteered, six subjects were classified as "good" subjects. The spontaneous additions of four of these subjects could have been predicted from their descriptions of the week before. For example, one subject spontaneously awakened from the trance each time she was given a task which called for opening her eyes. Upon a later perusal of her paper, we read "A person's eyes must be closed in order to be in a hypnotic trance." Another subject was non-hypnotizable on the first attempt. On the second trial he performed all the classical tests. His role-description contained the statement: "It takes time to learn to be hypnotized. Most people can't be hypnotized the first time." A third subject performed all the tests satisfactorily, except where she was asked to rise from her chair and write on the blackboard. She was resistant to all suggestions when on her feet. Her paper contained this statement: "The subject has to be reclining or sitting." The fourth subject was extremely stuporous, slow-moving, and unable to perform any of the tests. He required a vigorous shaking in order to wake him from the trance. His paper contained the sentence: "Hypnosis is like a deep sleep, the hypnotizer talks in a low voice and you go into a deep sleep." Of the remaining six subjects, all had a correct perception of the role. Their failure to

enact it could be attributed either to unfavorable motivation or to a lack of role-taking aptitude (*v. infra*). These observations lend support to the notion that variations in role-perception influence role-enactment.

In a clinical study of 10 adult patients in a hospital ward, a standard hypnotic procedure was used except that the operator avoided any mention of the word hypnosis or trance. The words relaxation and restful state were substituted. By any of the usual criteria none of these patients was hypnotized. Five of them fell asleep, however. Later the same subjects were told that hypnosis was to be attempted. They were told about the phenomena of hypnosis, the manner in which it is induced, and the possible therapeutic outcomes. The same induction procedure was used as before but the words hypnosis and hypnotic trance were reinstated. Three of the ten subjects responded to the usual hypnotic tests. Thus certain conditions leading to the perception of the role were prerequisite for enacting the role of the hypnotized subject.

Role-taking aptitude. Since motivational factors are necessary but not sufficient to account for the phenomena of hypnosis, and since role-perception does not automatically lead to role-enactment, a role-taking aptitude is postulated. However, since it is impossible to separate the motivational from the aptitudinal factors in studying hypnosis, White has suggested an experimental design (44). To a certain extent this design controls the factor of motivation and allows for an approximate isolation of the hypnotic aptitude. White recommends that all completely un hypnotizable subjects be eliminated for the reason that subjects with unfavorable motivations will thereby be discarded. The remaining subjects may be placed in two groups—sommambu-

lists, showing marked amnesia, hallucinations and anesthesia, and light trance subjects who show eyelid and limb catalepsy. "It can be postulated that the first group possesses the hypnotic aptitude to a marked degree, the second to a moderate degree. There should accordingly be significant differences between their average scores on tests which measure the hypnotic aptitude." This design was adopted in a study conducted at the University of Chicago by the author on an original sample of 70 undergraduate volunteers. All were given the Minnesota Multiphasic Personality Inventory. All were subject to the same induction procedures. Of the 70, 36 were discarded as non-hypnotizable subjects. All verbalized a role-perception (variations in role-perception were not considered). Of the remainder, 16 fell into the category of somnambulistic subjects, and 18 in the category of light trance subjects. Of the various scales on the test, the Hy (hysteria) scale differentiated the two groups. Using a T-score of 55 as a cutting point, the following four-fold table depicts the results.

	Sommambulists	Light trance
55 and above	12	4
Below 55	4	14

The chi-square value is significant to .01. (The mean T-score of the somnambulists was 60, of the light trance subjects, 51.) Thus a scale which differentiates hysterical patients also differentiates hypnotic subjects. This finding recalls that part of Charcot's theory which regards hypnosis as an artificially induced hysteria. However, none of the subjects was known to be a hysterical patient. We are led to the same conclusions made by clinicians for many years—the good hypnotic subject and the hysterical patient have something in common. We would suggest the role-taking aptitude.

Auxiliary support is given to this conclusion in a study reported by Lewis and Sarbin (25). Here hypnotic subjects were told to imagine eating a meal at a time when they were having gastric hunger contractions. We found a high correlation between the depth of hypnosis (Friedlander-Sarbin scale) and the ability to inhibit hunger contractions. Those who could take the role of the eater—to use an expression of Moreno's—who could imagine themselves ingesting food, initiated a set of internal responses which resulted in the cessation of the gastric contractions. Subjects who could not be hypnotized, who could not take the role either of the hypnotic subject, or of the eater in imagination, showed no cessation of gastric contractions. That role-taking is organismic is demonstrated here.

When we say that the role-taking aptitude is organismic we refer back to our "observations which must be accounted for." We repeated the question raised by the laity and by other theorists: How can such marked changes in behavior result from such apparently innocuous stimuli? ⁷ It is probably not far from the truth to say with Goldstein (19) that any act involves the entire organism. When an individual places

himself in the hypnotic situation—when he takes the role of the hypnotic subject—he does so organismically. When the subject acts *as if* he is ingesting food, his actions are total. The variation in his bodily responses, of course, will vary with the completeness and intensity of the role-taking.

A further comment is required about the organismic basis of the role-taking aptitude, especially as seen in acts which transcend normal limits. In the case of actors taking a stage role there are some who will enact the role without a preliminary warming-up process, while others require "preparation." In this warming-up or preparatory process the director helps the actor perceive some of the necessary attributes of the role. This might be considered a kind of covert practice in role-taking. In hypnosis the frequent lengthy induction may serve the same purpose, especially where the subject requires time to shift to the type of attentional behavior which is a component of the hypnotic role. Relaxation, diffuseness, and uncritical passivity as components of the role may be perceived by the subject as a result of the experimenter's instructions. When the subject aptly takes the hypnotic role (whether immediately, or after warming up *via* the induction procedures) a shift occurs from a sharp, alert, objective and critical attitude to a relatively relaxed, diffuse, and uncritical one. Because the alert orientation is highly valued and supported in our society some coaching or "preparation" is required for certain subjects. They must shift their focus to a relaxed, diffuse orientation which (as in the case of mystical states, for example) allows for more active motor-involvement and more intense affectivity. The variations in intensity or completeness with which one takes a role, and the concurrent motor and autonomic effects, are probably related to the subject's ability to

⁷ A philosophical digression is in order here. Scientists, no less than laymen, are influenced and limited by their historical and cultural horizons. Growing up in an intellectual environment in which a dichotomy is made between mind and body, between mental events and physical events, scientists are "amazed" when they observe events which are not congruent with the dichotomy. When a scientist's *eidōs* is freed from the necessity of fractionating behavior into the dichotomy dictated by 17th century dualism, then he can regard human behavior as organismic. Why should social psychological events not serve as conditions for altering predominantly biological activities? No one is amazed when respiratory changes are observed in attention experiments, or BMR's of westerners become more like those of orientals when living under specified oriental conditions, etc.

utilize *as-if* formulations. It is to this notion that we now turn.

THE *AS-IF* FORMULATION

Upon what does the role-taking aptitude depend? In a prior paragraph we noted the apparent relationship between the role-taking of the drama and role-taking in hypnosis. Mr. Arbuthnot, the actor, in taking the part of Hamlet, acts *as if* he is Hamlet and not Mr. Arbuthnot. The hypnotic subject acts *as if* he is an automaton (if automaticity is included in his role-perception). As a preliminary postulate we can say that the role-taking aptitude depends upon the subject's participation in *as-if* behavior. That this has a more general application is seen from a logical analysis of Rosenzweig's "triadic hypothesis" (33). In this statement, hypnotizability as a personality trait, repression as an ego-defense, and impunitiveness as a response to frustration are shown to be related. These may be considered *as-if* structures. We have already noted the *as-if* character of hypnosis. In repression the subject acts *as if* an event threatening to the self had not occurred. In the impunitiveness response to frustration, similarly, the subject acts *as if* the frustrating event were no longer frustrating. The *as-if* formulation may be seen not only in the drama, in hypnosis, but in fantasy, play, and, in fact, all imaginative behavior. Imaginative behavior is *as-if* behavior (40). Some data have been put forward by Jacobson (23), Schultz (39), Arnold (3); and others which may be put to use in formulating our theory. From the proposition that all imaginative behavior is *as-if* behavior, we may state that role-taking aptitude depends upon imagination. The following statements give at least initial validity to this proposition.

In a series of carefully controlled studies Jacobson (23) was able to dem-

onstrate the influence of the subject's imagining certain events upon bodily functions. For example, in a condition of relaxation, a subject was told to imagine elevating his arm. The electrical recording showed activity in the muscles which were involved. Schultz (39) reports many instances of the influence of imagination on various muscular and vascular characteristics. Varondenck (41) tells how imaginary processes (implicit) can spill over into overt muscular movements during the act of imagining. Common experience verifies the same notion. In imagining a former embarrassing situation we can feel our ears reddening and our faces flushing; in imagining a former painful experience we may involuntarily withdraw from the direction of the imagined stimulus, or in imagining something extremely unpleasant or disgusting we may experience nausea.

Arnold has written the most complete analysis of the relationship between hypnosis and imagination (3). According to her hypothesis, ". . . in hypnosis the individual is actively striving to imagine what the hypnotist describes, and in so doing gradually narrows down his focus and relinquishes control of his imaginative processes. . . . The individual focuses on a situation and actively selects the sensations which he will perceive; he actively focuses on possible situations in imagining, on symbols in logical thinking; and he refocuses on past experiences in remembering. Such focussing . . . is merely directed more efficiently, more intensely, during hypnosis than in waking life, and determined by the hypnotist instead of by the subject himself" (3, p. 127). This writer would amend the last statement to read: The focussing is determined by the hypnotist only insofar as the subject's self-perceptions and role-perception permit such direction. This amendment would follow from a

careful consideration of the data Arnold presents from her own experiment which reveals the individual character of the subject's own imagining over and above the directions of the experimenter.

Although Arnold's views are more sophisticated than most previous theories, we are left without any anchorage point for understanding differential responsiveness. The numerous experiments cited by Arnold show the influence of imagination on behavior and the kinds of experimental and clinical situations appear to be of the same kind as the hypnotic situation. But what of the answer to the all important social-psychological question: What are the characteristics of those individuals who are *not* able to focus and thus cannot produce changes in overt or covert behavior?

In Arnold's data is concealed a partial answer to this question. She reports an experiment in which the postural sway technique is used. She tested the hypothesis that a suggestion is acted upon only if the subject actively imagines it. The subjects were told to imagine falling forward. The amount of postural sway was recorded. Comparisons were made between the amount of sway and the reported vividness of imagery. Her conclusion was: The more vivid the imaginative process, the more pronounced the overt movements. From this conclusion and from the long-accepted conclusion about the relationship between the postural sway test and hypnotizability a correlation between vividness of imagery and hypnotic depth could be posited. We could then deduce that hypnotic role-taking depended upon imaginative (*as-if*) processes.⁸ One might fit the previously

⁸ Clinically, the writer has never found an adult with eidetic or vivid imagery who was not a good hypnotic subject. In a personal communication D. W. MacKinnon reports the same observation.

mentioned findings of Eysenck and Furneaux into this formulation. Subjects who score high on postural sway tests and test of heat illusion are able to imagine vividly in these sense modalities. *A fortiori*, the experiment of Sarbin and Madow (37) may be cited in which the depth of hypnosis and the Rorschach W/D ratio were shown to be correlated. The W or Whole response purportedly indicates a more active imagination.

How, then, does the role-taking theory apply to the four sets of observations previously identified as requiring explanation?

The apparent automaticity is apparent only. The subject varies his responses to the hypnotic situation in terms of his perception of the role of the hypnotized subject. If his perception includes automaticity, then he will act like an automaton.

The apparent discontinuity of behavior is also apparent but not real. The subject's behavior is continuous with his pre-experimental behavior—modified only by his enactment of the role of the hypnotic subject. Such "discontinuous" behavior as amnesia, post-hypnotic compulsions, etc., can be understood in terms of the subject's perception of the role, of his facility in *as-if* behavior and of the degree of participation of the self in the role.

The apparent disjunction between the magnitude of the response and the procedure for eliciting the response is a pseudo-problem. The magnitude of the response is not dependent upon the procedure except insofar as it coincides with the role-expectations of the subject. What appears to be a disjunction is a vestigial remnant of an outmoded psychology which sought to find constancy between phenomenal experience and stimulus events. If the subject has an adequate perception of the role, if this perception is not incongruent with

his self-perceptions, and if he has an appropriate amount of the role-taking aptitude, then he will produce all the dramatic phenomena of hypnosis merely because "the operator talks to him." If he does not or cannot perceive the role, if the role is not congruent with his self-perceptions, and/or he does not have a sufficient amount of the role-taking aptitude or skill, then he will not respond to the operator's commands. Thus differential responsiveness is declared to be a function of these three variables.

SUMMARY

The known facts about hypnosis were grouped in four classes of observations: (1) apparent automaticity, (2) apparent discontinuity, (3) disjunction between the magnitude of the stimulus and the magnitude of the response, and (4) differential responsiveness. Because of the obvious dependence of the first three factors upon the fourth (differential responsiveness) this question was formulated: What are the characteristics of those individuals who, in response to hypnotic induction procedures, exhibit conduct which is apparently discontinuous and apparently automatic?

We sought to demonstrate that concurrent theories of hypnosis were tradition-bound: trying to explain hypnotic behavior in terms of conditioning, heredity, or vague neurological formulae. In order to establish a logical link between hypnosis and another form of social psychological conduct which is accepted without resorting to traditional formulations, we first indicated the similarity between role-taking in the drama and role-taking in hypnosis. We postulated that success in taking a dramatic role or hypnotic role depended upon favorable motivation, a perception of the role, and role-taking aptitude. The chief difference in the two forms of role-taking was the degree of participation of

the self in the role (levels of consciousness).

The main portion of our presentation attempted to establish the validity of these conceptions. Favorable motivation was re-defined as congruence between the subject's self-concept and the role of the hypnotic subject. Role-perception is derived from the individual's interaction with various media of communication; the manner in which role-perception influences role-enactment is indicated. Finally, a role-taking aptitude is postulated. From our present state of knowledge this aptitude is probably dependent upon or continuous with the ability of the subject to use *as-if* formulations. Various research and clinical findings were introduced to supply a groundwork for the initial validity of the argument.

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[MS. received January 11, 1950]